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Varietal differences in frogeye leaf spot susceptibility

Michael D. Uphoff
Iowa State University, mduphoff@iastate.edu

X. B. Yang
Iowa State University, xbyang@iastate.edu

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Abstract
Frogeye leaf spot of soybean, caused by the fungus *Cercospora sojina*, causes damage in warm, humid soybean-growing regions and has been more important in southern states than in Iowa. Recently, however, the incidence of frogeye leaf spot has increased in north central states, including Iowa, with reports of severe damage in several areas. Symptoms of the disease include small, gray spots with reddish brown borders forming on the upper leaves in mid- to late August.

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Symptoms of the disease include small, gray spots with reddish brown borders forming on the upper leaves in mid- to late August. In severe cases the disease can cause premature leaf drop and formation of brown spots on stems and pods. The fungus is spread through spores carried by wind or rain, infested plant debris, and infected seed. The disease can spread rapidly from plant to plant under moist, humid conditions.

Frogeye Leaf Spot.

Enlarge [1]

Although soybean varieties with resistance to frogeye leaf spot are available, seed companies do not consider resistance to be an important trait for varieties sold in Iowa. Although breeding efforts for resistance have not been specifically undertaken for the northern regions, resistance genes are available and some genes may have been incorporated into production lines unintentionally.

At our locations at Ames in 2000 and Jefferson Country in 2001, we observed differences in susceptibility between soybean varieties used in our disease trials. The varieties in our plots were from private companies and public universities. We rated the varieties for the percentage of the leaf surface that was covered with spots. The results are given in Tables 1 and 2.

Although all varieties showed some degree of susceptibility, a number were consistently more tolerant to the disease (Table 2). Growers who have noticed problems with frogeye leaf spot in the past should replace extremely susceptible varieties with those that are less susceptible.

Table 1. Frogeye leaf spot tolerance ratings for public and private soybean varieties in 2000 and 2001.

Response		Number of Varieties

Group	Range (%)	2000	2001
Highly susceptible	>40	5	8
Moderately susceptible	21-40	13	33
Tolerant	0-20	50	25
Total		68	66

Table 2. Frogeye leaf spot disease ratings for public varieties in 2000 and 2001.

Variety	Disease Rating	
	2000	2001
CM396	NI	S
Macon	T	S
Morgan	S	S
Jack	S	NI
Ripley	T	NI
Spencer	T	NI
BSR 101	T	NI

T, tolerant; S, susceptible; NI, not included.

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